

CLARIFICATION OF THE LARVAL HOST PLANT OF
EPIDEMIA MARIPOSA (LYCAENIDAE) IN NORTHERN CALIFORNIA

The larval host plant of *Epidemia mariposa* (Reakirt) has long been thought to be *Polygonum douglasii* Green (Polygonaceae) (Tietz 1972, An index to the described life histories, early stages, and hosts of the Macrolepidoptera of the continental United States and Canada, A. C. Allyn, Sarasota, Florida, 426 pp.; Pyle 1981, The Audubon Society field guide to North American butterflies, Alfred A. Knopf, New York, 916 pp.). Other *Epidemia*, especially the closely related *E. nivalis* (Boisduval), use *Polygonum douglasii* as host plants (Pyle, cited above; Howe 1975, The butterflies of North America, Doubleday and Co., Garden City, New York, 633 pp.). However, other studies suggest that *Vaccinium* (Ericaceae) L. is the host plant of *E. mariposa*. In a paper describing the egg of *E. mariposa* (Coolidge 1910, Can. Entomol. 42:316), its host plant was recorded as *Vaccinium* in Yosemite. Although this record probably was for *E. mariposa*, the paper referenced by Coolidge (Lembert 1894, Can. Entomol. 26:46) recorded the butterfly that oviposited on *Vaccinium* as *Chrysophanus arota* (Boisduval) which uses *Ribes* or Gooseberry. Our recent field and laboratory studies confirm that *Vaccinium* is the larval host plant for *E. mariposa* in northern California.

On 4 August 1984 we visited Cedar Lake (1,700 m elev., 24 km southwest of Mt. Shasta), Siskiyou Co., California, to obtain females of *E. mariposa* for life history studies. No *Polygonum douglasii* was observed, yet *P. bistortoides* Pursh. was found in and around the periphery of the bog, and in neighboring marshy areas. A number of potential host plants including *P. bistortoides* were taken from the area for ovipositional studies.

Eight females of *E. mariposa* were put in oviposition chambers with varying combinations of plants collected from the bog, along with either *Rumex californica* Rech. or *R. crispus* L. (Polygonaceae). One female was exposed to both *Rumex crispus* and *Vaccinium arbuscula* (Gray) Merriam. Only two eggs were oviposited, both on *V. arbuscula*. Four of the eight females were switched to *V. arbuscula*, while the remaining females were left on the *Rumex* and *Polygonum*. The following day, more than 50 eggs were oviposited by the females switched to *V. arbuscula*, while none were oviposited on the *Rumex* or *Polygonum*.

After being left at room temperature for a month, the eggs were refrigerated at 4°C. They were removed after two months, and allowed to warm to room temperature (late November 1984). Within two weeks, 10 ova hatched and the neonatal larvae were confined with both *Rumex crispus* and *Vaccinium corymbosum* L. (nursery stock). Larvae refused to feed on *R. crispus*, which we have found acceptable to *E. nivalis*, yet fed on fresh young shoots of *V. corymbosum*. Eggs sent to John F. Emmel were reared to maturity on *Vaccinium corymbosum*.

On 19 June 1985, we returned to Cedar Lake to look for larvae of *E. mariposa* on *Vaccinium*. By beating branches into a heavy cloth net, we obtained two mature larvae from *Vaccinium arbuscula*, but none from *V. occidentale* Gray, which also occurs in the bog. Perhaps *E. mariposa* females oviposit on particular species of *Vaccinium*; the butterflies are not found in all areas where *Vaccinium* is abundant within their range.

A fresh female *E. mariposa* collected 27 July 1985 at Tioga Pass, Mono Co., California, was induced to oviposit on the local *Vaccinium*, *V. nivictum* Camp. *Vaccinium nivictum* is considered to be a close relative of *V. arbuscula* (at one time both species were considered the same as *V. caespitosum* Michx.). Unfortunately, the eggs were infertile.

Voucher specimens of *E. mariposa* from Cedar Lake are in the authors' collections and the collection of the Entomology Department, University of California at Riverside. Specimens of the *Vaccinium* are in the University's herbarium.

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